III. REMARKS

Claims 1, 2, 4-22, and 24-32 are pending in this application. By this Amendment, claims 1, 11, 21, 22, and 24-32 have been amended, and claims 3 and 23 have been cancelled. Applicants are not conceding in this application that those claims are not patentable over the art cited by the Examiner, as the present claim amendments are only for facilitating expeditious allowance of the claimed subject matter. Applicants respectfully reserve the right to pursue these and other claims in one or more continuation and/or divisional patent applications. Reconsideration in view of the following remarks is respectfully requested.

Claim Objections

In the Office Action, claim 11 is objected to because of an informality, specifically, the recitation of the phrase "executing system system" in line 6. Applicants have amended this claim herein ("executing system ~~system~~") to correct the reiteration of the word "system," and accordingly request withdrawal of the objection.

Rejections under 35 U.S.C. § 112, first paragraph

In the Office Action, claims 1-32 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Office asserts that these claims "contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention," including the feature of "wherein the customized data mining models are generated in parallel using multiple iterations or generating the customized data mining models in parallel using multiple iterations or wherein the existing data mining models have been generated in parallel using multiple iterations" in claims 1, 3, 8, 11, 14, 16, 19, 21, 23, 28, and 30. (Office Action, p. 6.)

Applicants respectfully submit that support for this feature can be found in the specification as filed in a variety of passages, including,

> …Specifically, an "iterator" within model generation system 50 will develop *various permutations* of the user data 58, business parameters 60 and/or the model generation algorithms (collectively referred to as model generation details), and *iteratively generate multiple* data mining models based thereupon. For example, model generation system 50 can perform permutations such as shuffling data, changing model generation algorithms, etc. Regardless, model generation system 50 will generate the data mining models in parallel (e.g., in a grid-like fashion) such that all data mining models are generated at the same time/simultaneously. This avoids the inefficiencies with having to generate each data mining model one at a time. To this extent, although not shown in Fig. 1, multiple computerized "machines" could be provided in communication with server 10 that each generates one or more data mining models. ([0034], emphasis added)

and

> … Similar to the generation of the data mining models, the execution of multiple data mining models can be performed in parallel (e.g., in a grid fashion) by multiple machines (not shown) in communication with server 10… ([0035]),

among other passages. Accordingly, Applicants submit that the feature noted by the Office is described sufficiently in the specification to evince possession of the invention at the time of filing of the application. Accordingly, Applicants respectfully request the withdrawal of the rejections under § 112, first paragraph.

Rejections under 35 U.S.C. § 101

In the Office Action, claims 21-32 are rejected under 35 U.S.C. § 101, as allegedly being directed to a recordable medium used to store a program product, deemed by the Office to be a "hardware memory" (Office Action, p. 6).

Applicants have amended claims 21-32 accordingly, to provide improved clarity with respect to the features noted by the Office. Particularly, the Applicants have amended independent claims 21, 28, and 30 to recite the features of a "computer-readable medium storing computer instructions, which when executed, enables a computer system to mine data, the computer instructions comprising…" (claim 21, lines 1-2, and similarly recited in claims 28 and 30). Support for such a change is extracted from at least paragraph [0040] in the application as filed.

Although claims 21-32 now recite a computer-readable medium and not a program product, these claims still classify in the article of manufacture category of invention. Because claims 21, 28, and 30 recite features similar to claim 14, such as generating a plurality of customized data mining models in parallel using multiple iterations based on permutations of at least one of the user data, the business parameters and a set of model generation algorithms; ranking the plurality of customized data mining models based on the business parameters; selecting at least one customized data mining model from the ranked plurality of customized data mining models; and executing the selected at least one customized data mining model on the user data, and outputting a result, Applicants submit that these features are independent physical acts that manipulate data representing physical objects to achieve a practical application and are not abstract. Accordingly, Applicant submits that claims 21, 28, and 30, and depending claims 22-27, 29, and 31-32 are statutory.

Because independent claims 21, 28, and 30, and their respective dependent claims fall within a statutory category enumerated in §101 and not within a judicially created exception, and recite a practical application, Applicants submit that the claimed invention recites statutory subject matter. In light of the above, Applicants believe that all grounds of the §101 rejection

have been obviated. Accordingly, Applicants request that the Examiner reconsider and withdraw the rejections under § 101.

Rejections under 35 U.S.C. § 103(a)

In the Office Action, claims 1-32 are rejected under 35 U.S.C. § 103(a). Claims 1-4, 7-9, 11-12, 14-15, 19, 21-24, 27-29, and 30-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Thearling (US Pat. No. 6,240,411, hereinafter, "Thearling"), in view of Van Huben (US Pat. No. 6,094,654, hereinafter "Van Huben"); as well as the combination of Thearling in view of Cassuto et al. (US Pub. No. 2002/0127529, hereinafter, "Cassuto"). Claims 1-4, 7-9, 11-12, 14-15, 19, 21-24, and 27-31 are further rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Miller (US Pat. No. 6,826,556, hereinafter, "Miller56").

With respect to independent claim 1, Applicants respectfully submit that the combinations of Thearling and Van Huben, and Thearling and Miller56 both fail to teach each and every element of the claimed invention as recited herein. However, in the interest of expediting prosecution, Applicants have amended claim 1 to include the feature of wherein the customized model system comprises … a model generation system …; a model ranking system for ranking the customized data mining models based on the business parameters, for identifying a predetermined quantity of the ranked customized data mining models, and for providing comparative data corresponding to the predetermined quantity of the ranked customized data mining models; a customized model selection system for selecting at least one customized mining model from the predetermined quantity; and a customized model execution system …" (Claim 1). These features were previously recited in dependent claim 3.

Applicants respectfully submit that Thearling, upon which the Office relies, fails to teach each and every feature of the claimed invention, including the above-quoted feature, as well as "a customized model system for generating and ranking customized data mining models" (claim 1, lines 8-9). Further, Miller56 and Van Huben fail to cure these deficiencies in the rejection.

Thearling teaches, "At a step 110, one of the models within the query is selected for evaluation. This selection may be done randomly. In the alternative, the user could input the order of models for selection. In another embodiment, the campaign manager could automatically select the order of the models." (Col. 13, lines 35-40 (cited by the Office).) There is nothing in Thearling to suggest a model ranking system for ranking the customized data mining models based on the business parameters. Thearling merely teaches "the user could input the order of models for selection." A user's input, however, does not teach or suggest a model ranking system which accomplishes the ranking *for* the user. Thearling further teaches "the campaign manager could automatically select the order of the models," however, Thearling does not teach how these models might be automatically selected, in what order, or based on what criteria. In contrast, the claimed invention includes "model ranking system for ranking the customized data mining models based on the business parameters." As Van Huben and Miller56 both fail to cure this deficiency, Applicants respectfully submit that the rejection is fatally flawed. Accordingly, Applicants further submit that the cited references fail to teach or suggest the feature of "*a customized model system for* generating and *ranking customized data mining models*."

On the basis of at least these deficiencies, Applicants respectfully request withdrawal of the rejection of claim 1 under § 103(a).

With respect to independent claims 8, 14, 21, and 28, Applicants note that each claim includes features similar in scope to those already addressed above with respect to claim 1. Further, the Office relies on the same arguments and interpretations of Thearling, Van Huber, and Miller56 as discussed above with respect to claim 1. To this extent, Applicants herein incorporate the arguments presented above with respect to claims 8, 14, 21, and 28, and respectfully request withdrawal of the rejections of these claims for the above-stated reasons.

With respect to independent claim 11, Applicants respectfully submit that the combinations of Thearling and Van Huben, and Thearling and Miller56 also fail to teach each and every element of the claimed invention as recited herein.

For example, Applicants submit that Thearling, upon which the Office relies, does not teach or suggest "an existing model comparison system for comparing results of the execution of the plurality of existing data mining models, and outputting a result" (claim 11, lines 16-17). With respect to this feature, the Office cites to Thearling's teaching of "a simple query that requires only Boolean operation AND of income greater than sixty thousand dollars AND a model score of greater than 0.5." (Col. 11, lines 40-45.) Thearling teaches that rather than running a data model against all data, it can be run only on data meeting certain criteria (i.e., income of greater than sixty thousand dollars), producing a restricted table. This merely "reduces the number of records that need to be scored by the model" (*id.*, lines 52-53). Ultimately, the above-cited query is resolved using the model score generated by evaluating the model (col. 12, lines 59-64). Resolution of the query, however, does not teach or suggest comparing the results of execution of one model against the results of execution of another model. Accordingly, Applicants submit that Thearling, in addition to Miller56 and Van Huben, fails to teach or suggest the claimed feature.

With respect to independent claims 19 and 30, Applicants note that each claim includes features similar in scope to those already addressed above with respect to claim 11. Further, the Office relies on the same arguments and interpretations of Thearling, Van Huber, and Miller56 as discussed above with respect to claim 11. To this extent, Applicants herein incorporate the arguments presented above with respect to claims 19 and 30, and respectfully request withdrawal of the rejections of these claims for the above-stated reasons.

With respect to dependent claims 2, 4, 7, 9, 12, 15, 22, 24, 27, 29, and 31, Applicants respectfully submit that each of these claims are allowable for reasons stated above relative to independent claims 1, 8, 11, 14, 19, 21, and 30, as well as for their own additional claimed subject matter. Accordingly, Applicants respectfully request that the Office withdraw the rejections under 35 U.S.C. § 103(a) to claims 2, 4, 7, 9, 12, 15, 22, 24, 27, 29, and 31.

With regard to claims 5-6, 10, 13, 16-18, 20, 25-26, and 32; claims 5, 10, 13, 18, 20, 25, and 32 are rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Van Huben, and further in view of Mani (US Pat. No. 6,677,963, hereinafter, "Mani") and Hofmann (US Pat. No. 6,687,696, hereinafter, "Hofmann"); and the combination of Thearling in view of Miller56, and further in view of Mani and Hofmann; claims 5, 10, 18, and 25 are further rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Cassuto and further in view of Mani and Hofmann; and claims 13, 20, and 32 are further rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Cassuto, and further in view of Mani and Hofmann; claims 6, 17, and 26 are rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Van Huben, and further in view of Miller (US Pat. No. 6,553,366, hereinafter, "Miller66"), as well as over the combination of Thearling in view of Cassuto and further in view of Miller66; and the

combination of Thearling in view of Miller56 and further in view of Miller66; and claim 16 is rejected under § 103(a) as being unpatentable over the combination of Thearling in view of Van Huben, and further in view of King Jr. (US Pub. No. 2002/0042731, hereinafter, "King"), as well as the combination of Thearling in view of Cassuto and further in view of King; and the combination of Thearling in view of Miller56 and further in view of King Jr.

Applicants respectfully submit that each of claims 5-6, 10, 13, 16-18, 20, 25-26, and 32 are allowable for reasons stated above relative to independent claims 1, 8, 11, 14, 19, 21, and 30, as well as for their own additional claimed subject matter. Accordingly, Applicants respectfully request that the Office withdraw the rejections under 35 U.S.C. § 103(a) to claims 5-6, 10, 13, 16-18, 20, 25-26, and 32.

IV. CONCLUSION

Applicants respectfully submit that the Application as presented is in condition for allowance. Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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